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The potential of sovereign sustainability-linked bonds in the drive for net-zero

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Executive summary

OP IO GO s have for some years issued green bonds that raise funds for climate-related spending. ese bonds have been received well in capital markets but because they promise a certain use of proceeds, they complicate budget management and may not match investors' claims of having an impact on national climate policies.

P BLIC CO I I S D by major investors and asset owners suggest that limiting climate transition risks and the assessment of the alignment of sovereigns with net-zero targets will now become key determinants of portfolio allocation. Yield di erentials in bond markets are already beginning to re ect transition risks that arise from the inadequate pursuit by issuers of climate targets.

LIK S I D DG bonds, sustainability-linked bonds (SLBs) create a link between performance (outcome) indicators and the nancial terms of the bonds. SLBs have grown rapidly in importance in private markets and are now being assessed by sovereign issuers.

W SHOW H ISO IG SLBs could help incentivise climate policies in EU countries, and accelerate emission reductions. ey would be an e ective tool for signalling commitment. A common EU framework for issuance by EU countries would enhance capital market integration and the transparency of national policies, and would limit climate transition risks in EU capital markets more broadly.

Alex Lehmann (alexander.lehmann@bruegel.org) is a Non-resident Fellow at Bruegel

Catarina Martins (catarina.martins@bruegel.org) is a Research Analyst at Bruegel

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1 Introduction

e implications of the climate transition and the risk that companies will not reduce their emissions quickly enough have occupied investors for some time. Climate-related risks are now also beginning to in uence sovereign debt markets (OECD, 2022). is is evident in the greater interest investors pay to issuer disclosure, in the form of environmental, social and governance (ESG) metrics, and also in the greater political accountability for climate outcomes required for public-sector issuers.

Two principal types of instruments have emerged in bond markets to re ect issuer policies and investor mandates. A rst set, including green bonds, restricts the use of proceeds to certain expenditures and rewards issuers for documenting this green spending. A second and more recent type of bond links rewards for issuers to certain outcomes. ese bonds give the issuer much greater freedom in spending, but impose nancial penalties if commitments are not met. ese bonds might also reward achievement of climate targets.

e greening of sovereign debt is important because a large part of the expected €350 billion in additional annual capital expenditures to achieve net-zero emissions in the EU will need to be mobilised by the public sector, possibly amounting to 1.8 percent of annual GDP (Baccianti, 2022; Klaaßen and Ste en, 2023). In addition to meeting climate-related funding needs, sovereign debt managers must also contain the risks that will arise if their governments manage the transition to a low-carbon economy poorly – which could rd fCtehTJ0 Sdfn0 Sdmk7. (uld r)15me n a-related

We start by assessing the extent to which sovereign green bonds issued by EU countries have established a meaningful new funding tool in line with the traditional objectives of sovereign debt management and capital market e ciency, and if this format could indeed mobi-

Investors could be forgiven for being confused about the di erent frameworks on which national, EIB and EU green bond issues are based. e national frameworks that set condi-

taxonomy, or for projects with lifetimes that do not match investors' investment horizons[7].

e continued green bond issuance by EU countries may hence fall foul of increasing investor scrutiny and may not be in line with traditional debt management objectives, which emphasise predictability of supply and liquidity of a single asset class.

be exposed to a substantial and abrupt rebalancing of investor portfolios as climate change unfolds. Even though sovereign bond investors normally allocate portfolios 'passively' based on a market-weighted index, there are now bond indices that tilt such allocations based on climate risks and opportunities[10].

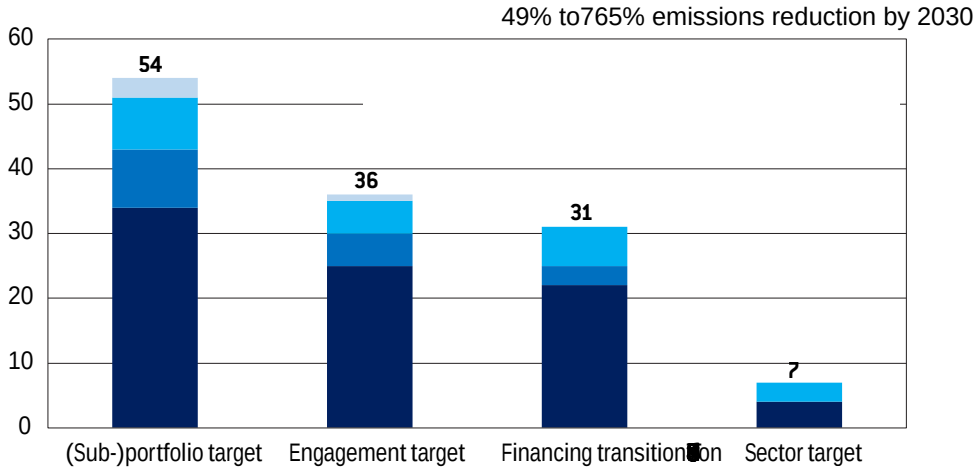
Investors increasingly attempt to contain climate transition risks through portfolios that are consistent with a 'net-zero' world (ie with carbon neutrality that limits the global temperature rise to 1.5°C above pre-industrial levels). At least three developments explain the evident investor sensitivity to sovereign climate policies.

A rst and fundamental factor lies in the reinterpretation of the duciary duty of asset

intensity-based targets, as opposed to absolute reductions in portfolio emissions[12]. Panel B of Figure 2 suggests that some members are more ambitious and go beyond the indicative ranges set by the alliance, but there is still some dispersion among pledges.

Figure 2: Commitments by members of the Net-Zero Asset Owners Alliance

Panel A: Breakdown by member type and commitment



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Sovereign bonds, often the largest asset class in investor portfolios, were initially not

4 Sustainability-linked bonds as an alternative option

Sovereign green bonds commit the issuer to allocate funds to certain projects and budgetary expenditures. Within complex national budgets, spending invariably exceeds signi cantly the funds raised from green bonds. e attribution of project expenditures to a speci c type of bond is weak and may well be conceptually awed (Hardy, 2022). Following the primary issue, the investor has no tools to enforce change within a government that is not already committed to green spending. e government may seek to maintain the continued certi cation of its green bond framework and prevent the reputational damage that would result from a withdrawal of this assessment. However, investors typically have no speci c contractual rights of redress for any loss should their bond holdings no longer be deemed ESG compliant[16].

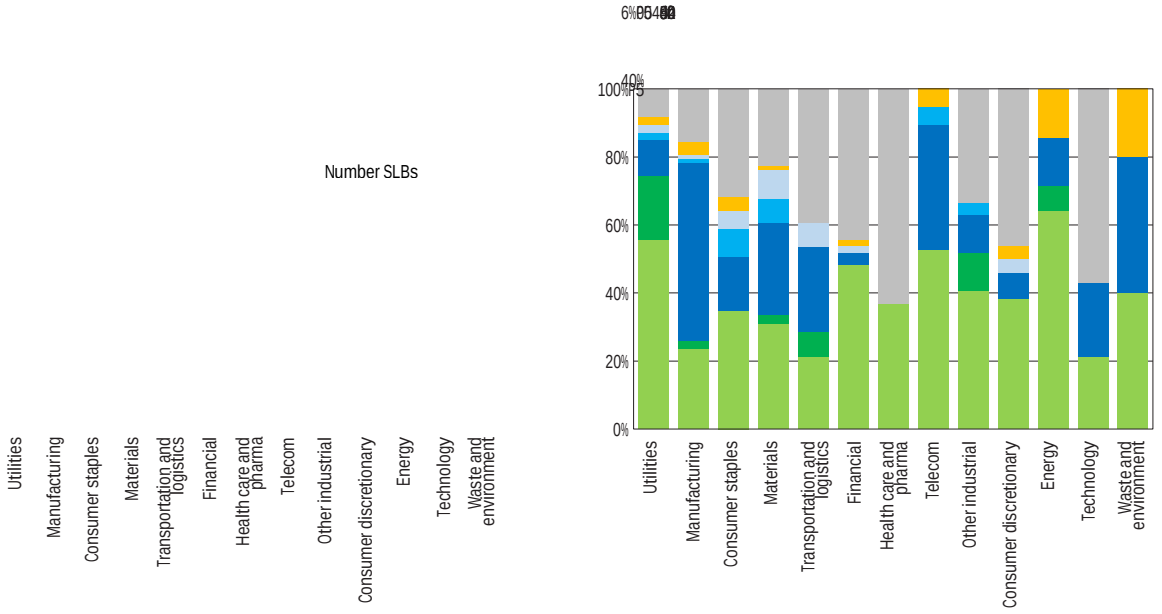
By contrast, sustainability-linked bonds reset the nancial characteristics of the bond if the issuer fails to meet a speci c target. At certain test dates, sustainability outcomes are evaluated and the bond coupon that the issuer pays to the investor will be raised if the target has not been met[17]. e additional 'ESG' quality of the bond will be determined by the choice of key performance indicator (KPI) as a measure of progress. KPIs could be linked, for example, to aggregate emissions or the use of renewable energy, the target levels, and the timing of test dates.

the incentive e ect for poorer-rated issuers (ESMA, 2023). Sovereign SLB issuers may similarly commit to outcomes which they have had every intention of achieving anyway, or o er contingent payo s that will not be meaningful.

4.1 The growth of the SLB market to date

From a low base, corporate SLBs have grown rapidly in the past years, with about €89 billion issued in EU corporate bond markets in 2022 (Figure 3). Globally, SLB issuance increased tenfold in 2021, to 338 bonds in total. At the same time, the market is generally seen as still immature, with a near-uniform structure and typically undemanding coupon step-up penalties of only 25 basis points. Many of the performance targets set in corporate bond issues seem to have been unambitious, or failed to capture relevant emissions. Often, investors did not have su cient insights into where the issuer stands relative to the announced targets[20].

A rst empirical study of corporate SLBs suggests there is a signi cant premium at the point of primary issuance. In other words, investors seem to be willing to pay for climate out



4.2 Could sovereign SLBs make sense for European issuers?

Could sovereign SLBs issued by EU governments contribute meaningfully to decarbonisation and open up additional nancing options in support of the European Green Deal? If sovereign SLBs are designed well, it is likely that they could, for three reasons.

First, investors have expressed interest in bonds with limited transition risks and in creating portfolios aligned with the net-zero goal. e rst interim targets are still some years in the future, but the early evidence reviewed above suggests this reallocation is already underway. Investors that seek to make an impact are a small niche segment in the investor landscape, though they are becoming more important and might become more vocal in future.

Second, as discussed in the previous section, current mechanisms for green-spending disclosure and commitment in the various national bond frameworks seem imperfect and disparate. In any case, they notionally tie proceeds to certain spending (if fungibility is ignored), not to policies or outcomes.

ird, the experience of the rst two sovereign SLB issuers, Chile and Uruguay, suggests that SLBs can be designed in a way to strengthen commitment and disclosure, given a need to publish KPIs regularly. To instil con dence, the enforcement of the SLB sustainability targets through penalty coupon rates is a necessary, though not su cient, condition. e path sketched in the SLB contract may be exactly what the sovereign would have done anyway.

e question is therefore whether EU issuers already have net-zero targets that are not fully credible, and whether su ciently meaningful penalties can be de ned. e transparency of a government's climate plans, and its disclosure in the markets, is less of a problem than for companies. Emission-reduction targets are regularly announced and scrutinised publicly.

If issued at su cient scale, countries with credible climate policies would likely see a convergence in pricing of their sovereign SLB and conventional ('plain vanilla') bonds in the secondary market. e discipline exerted by the SLB contract would solve the government's credibility problem and would reduce transition risk in the eyes of investors. Conversely, countries without SLBs, or that implement climate policy poorly, would have a credibility problem and would see a di erence in borrowing costs resulting from transition risk, relative to other issuers of similar credit quality.

Needless to say, there are also some important drawbacks of SLBs for sovereigns. e issuer ties the hands of current and future governments to deliver on climate commitments made at the time of issuance, though these may look more demanding as the climate transition progresses. Moreover, the government would subject climate policy performance to the scrutiny of bond markets as investors' assessments of the risk of a breach of sustainability targets would become public knowledge. Sovereign debt would be rated on the basis of both traditional measures of risk of default, and also the risk of missing the self-imposed climate targets. is latter risk could be the basis of a warrant contract, split o from the original SLB. In e ect, the bond market would put a price on the government's climate policy credibility[23].

5 A proposal for European climate-linked sovereign bonds

e European Commission and the European Central Bank have repeatedly stated their aim that capital markets should support the climate transition (Lagarde, 2021). e EU's objectives for the climate transition and capital markets integration should now be promoted through a deeper coordination of national debt issuance related to climate commitments.

All EU governments have made net-zero pledges in one form or another, though the speed of convergence, transparency of targets and their legal signi cance vary considerably (Table 1). Investors are bound to view these plans as lacking credibility. An OECD index of environmental policy stringency shows that EU country policies have not improved at the same pace (Figure 4). All 19 EU countries covered by the OECD have improved over the past 15 years, but divergence has, if anything, increased. A closer look at the component policy indicators shows that the implementation of market-based incentives, such as emissions trading and taxes, is the main factor behind the divergence. Support for fossil-fuel consumption, including through various tax rebates, also remains relatively high in some major countries.

If designed well, sovereign SLBs issued by EU countries could satisfy the investor appetite for credible net-zero exposures, and would allow EU governments to signal their commitment to climate targets. Should these targets be missed, countries could be subject to meaningful nancial penalties. As general budgetary resources, the proceeds of SLBs could nance a variety of the expanding public sector climate expenditures.

National debt-management o ces would approach any new instrument with the aim of delivering on long-standing principles of e cient debt management and, as a secondary objective, improving the functioning and liquidity of the local bond market. Bond market participants, for their part, will require an instrument that prices in the risk of a delayed national climate transition, which could in turn impact on private-sector climate plans[24].

A further incentive for government debt management o ces could be to make the broader capital market more resilient to climate transition risks. By investing in a sovereign SLB that pays a premium if national climate policies disappoint, investors hold a 'climate hedge' that could o set the potential loss in value of private sector securities impacted by the country's inadequate progress on emissions.

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Table 1: Climate targets set by EU governments

Country	End target	End target year	End target status	Interim target (% reduction)	Interim target baseline year	Interim target year	Territorial emissions	Consumption emissions	International aviation	International shipping	Has a plan	Reporting mechanism
Austria	Climate neutral	2050	In policy document	55	1990	2030	Yes	N/S	Yes	Yes	Yes	Annual reporting
Belgium	Carbon neutrality	2050	In policy document	55	1990	2030	Yes	Yes	N/S	N/S	Yes	Annual reporting
Bulgaria	Net zero	2050	Proposed / in discussion	40	1990	2030		N/S	N/S	N/S	No	Less than annual reporting
Croatia	Net zero	2050	In policy document	37	1990	2030	N/S	N/S	N/S	N/S	Yes	Less than annual reporting
Cyprus	Climate neutral	2050	Proposed / in discussion	55	1990	2030	Yes	N/S	N/S	N/S	Yes	Less than annual reporting
Czechia	Emissions reduction	2030	In policy document			2030	Yes	No	No	No	Yes	Annual reporting
Denmark	Net zero	2050	In law	70	1990	2030	Yes	No	No	No	Yes	Annual reporting
Estonia	Climate neutral	2050	Declaration / pledge	70	1990	2030	Yes	N/S	No	No	Yes	Annual reporting
Finland	Climate neutral	2035	In policy document	55	2005	2030	Yes	N/S	No	No	Yes	Annual reporting
France	Net zero	2050	In law	55	1990	2030	Yes	No	No	No	Yes	Annual reporting
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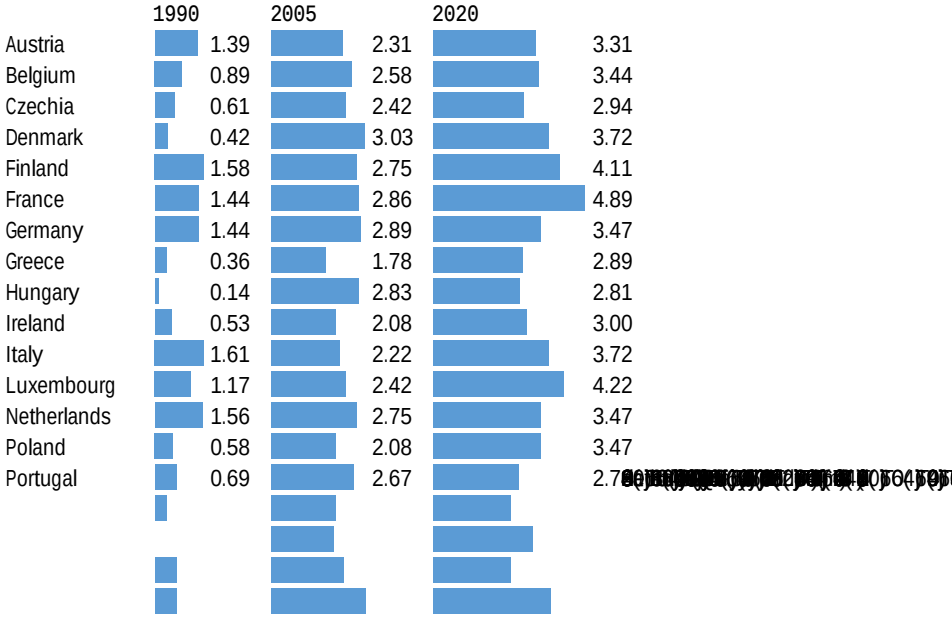
Figure 4: Climate policy stringency in EU countries



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5.1 A possible design

If sustainability-linked bonds were to be issued, there is a strong case for a single framework and contract structure, to help address the limited integration and illiquidity of EU markets. A single standard for sovereign SLBs would be a major improvement over the currently disjointed national green-bond frameworks, which have done little to overcome the underlying aws in the European public debt market. is should be easy to do if a single set of targets and performance metrics could be agreed on the basis of existing EU legislation.

e EU's sovereign debt managers already collaborate loosely within the Economic and Financial Committee (EFC)[25]. e mandate for the sovereign debt markets sub-committee was last updated in 2010 and tasks debt managers with promoting the e cient functioning of the primary and secondary markets and the integration of markets, and establishing some good practices in terms of, for instance, transparency of issuance plans[26]. ough debt management and scal policy remain national prerogatives, there appears to be some shared interest in the smooth functioning of primary-issuance processes and in ensuring market liquidity. An important new task for the EU's debt managers and this committee should be to increase transparency about sustainability aspects of national debt-management strategies and issuance plans.

e EFC sovereign debt markets sub-committee could be a forum in which to reach consensus on that common design, including for EU SLBs. For sovereign issuers of SLBs, the EFC should de ne a single format that re ects national climate commitments and de nes a common metric and timing of the trigger point. National debt managers would still have discretion over what scope to give this instrument in their national debt-issuance plans.

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In terms of a regulatory framework for SLBs, the new EU green bond standard could be easily adapted. Existing industry standards already de ne the basic structure of the instrument, and set standards for the reliability and transparency of performance targets, which may well di er between issuers and industries (ICMA, 2020). is could be assessed by the veri cation

Several other details would still need to be eshed out, though could be left to individual debt-management o ces. Issuers might de ne targets that exceed those of the ESR, or o er more or less demanding penalty coupon rates should targets be missed. In primary auctions of SLBs, investors would then bid for volume and yields based on conventional sovereign credit quality, and issuers would at the same time need to x the timing and ambition of the sustainability performance target, and the penalty coupon rate[31]. At whatever scale and in whatever format ESR-linked bonds are issued, the risk of EU countries missing national emission targets would be assessed and priced by the market[32].

Given limited initial volumes, the potential nancial penalty for failing to meet a sustainability target will be quite small relative to the size of a public expenditure programme that would be needed to achie(G)enditotl-20 (Call (oy for -2 (escn2GS1 gs)1 (o)endl-2 (escn1GS1 gs), 2022a). (i18(d on cono)4 (u

Countries that commit to their tougher targets in SLB contracts (in the right part of Figure 5) would likely see stronger demand for their SLBs, and lower coupon rates if policies are credible. Where scal headroom is already limited (in the upper part of Figure 5), SLB issuance may be particularly attractive for the issuer. If traditional sovereign credit quality is poor but climate policies are sound, SLBs would represent a funding tool less likely to be impacted by creditor runs. Fiscal hawks may well be climate laggards and vice versa.

6 Conclusions

From a low base, corporate issuance of sustainability-linked bonds has grown rapidly over the past two years. Di erently to green bonds, issuers of SLBs are free to spend bond proceeds

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